

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): A method of estimating traffic values or intervals in a communications network, the network comprising a plurality of nodes being interconnected by links, the method comprising ~~the steps of:~~

(a) obtaining traffic data through said nodes or links as input data comprising traffic measurements for said links obtained from one or more of the nodes in the network;

(b) obtaining network data relating to the network topology and network behaviour, said network data comprising end-to-end paths in the network; ~~and~~

(c) estimating the effect of a modification of said communications network or its behaviour by calculating traffic information between a selected first and a selected second node of said network using said input data;

(d) repeating step (c) for different pairs of said first and second nodes corresponding to different modifications; and

(e) selecting, according to predefined criteria, one or more candidates for modifying said communications network corresponding to one or more of said modifications.

Claim 2 (original): A method according to claim 1, wherein said traffic information is a cumulated traffic flow.

Claim 3 (canceled).

Claim 4 (previously presented): A method according to claim 1, wherein said modification of said network or network behaviour comprises one or more of: a modification of the network topology, a modified routing algorithm parameter, a modified traffic engineering constraint or a modified traffic load.

Claim 5 (previously presented): A method according to claim 1, further comprising the step of correcting said input traffic data if inconsistencies are detected.

Claim 6 (previously presented): A method according to claim 1, wherein said traffic information is calculated using linear constraints in a traffic flow model.

Claim 7 (previously presented): A method according to claim 1, further comprising evaluating the impact of the network or network behaviour modification from the calculated traffic information.

Claim 8 (canceled).

Claim 9 (canceled).

Claim 10 (currently amended): A method according to ~~claim 9~~ claim 1, further comprising the step of calculating a detailed analysis of traffic values or traffic intervals for one or more of the selected candidates.

Claim 11 (original): A method according to claim 10, wherein said traffic values or intervals are calculated using a traffic flow model being based on

(a) traffic data measurements through said nodes and links as input data; and

- (b) a plurality of constraints describing network topology and behaviour.

Claim 12 (currently amended): A method of calculating traffic values or intervals in a communications network, the communications network comprising a plurality of nodes, the nodes being connected to one another by links, the method of comprising:

calculating the cumulated traffic flow between a first and second of said nodes in a traffic flow model of the communications network using linear constraints;

said traffic flow model being based on:

- (a) traffic data measurements through said nodes and links as input data; and

(b) a plurality of constraints describing the network topology and behaviour, said network topology comprising end-to-end paths in the network; and

correcting said input data if inconsistencies are detected, wherein correcting comprises using said traffic data measurements and said constraints; and

estimating the effect of a modification of the communications network or its behaviour using said traffic flow model, wherein said modification of said network or network behaviour comprises one or more of: a modification of the network topology, a modified routing algorithm parameter, a modified traffic engineering constraint, or a modified traffic load.

Claim 13 (canceled).

Claim 14 (canceled).

Claim 15 (currently amended): A method of modifying a communications network, the network comprising a plurality of nodes being interconnected by links, the method comprising: ~~the steps of~~

(a) obtaining traffic data through said nodes or links as input data comprising traffic measurements for said links obtained from one or more of the nodes of the network;

(b) obtaining network data relating to the network topology and network behaviour, said network data comprising end-to-end paths in the network;~~and~~

(c) automatically selecting promising candidates for a network modification by calculating a cumulated flow using said traffic and network data, wherein the candidates are selected according to predefined selection criteria; and

(d) estimating the effect of said network modification.

Claim 16 (previously presented): An apparatus for calculating traffic values in a communications network, adapted to perform the method of claim 15.

Claim 17 (previously presented): A network management system for managing a network, adapted to perform the method of claim 15.

Claim 18 (currently amended): A computer-readable storage medium encoded with a computer program for modifying a communications network, the network comprising a plurality of nodes being interconnected by links when operated in a computer system; the computer program comprising:

code for obtaining traffic data through said nodes or links as input data comprising traffic measurements for said links obtained from one or more of the nodes in the network;

code for obtaining network data relating to the network topology and network behaviour, said network data comprising end-to-end paths in the network;~~and~~

code for automatically selecting promising candidate for a network modification by calculating a cumulated flow using said traffic and network data, wherein the candidates are selected according to predefined selection criteria; and

code for estimating the effect of said network modification.

Claim 19 (canceled).

Claim 20 (previously presented): The method of claim 12 wherein said constraints comprise:

for each route, traffic coming in is equal to traffic going out; and

for each link between an interface j of a router i and an interface l of a router k, outgoing traffic data on the interface j from the router i is equal to incoming traffic data on the interface l of the router k.

Claim 21 (previously presented): The method of claim 1 wherein said network data further comprises router and routing information.

Claim 22 (previously presented): The method of claim 1 wherein estimating the effect of a modification comprises utilizing cumulated flow analysis.

Claim 23 (previously presented): The method of claim 1 further comprising generating a traffic flow model utilizing said traffic and network data and utilizing said traffic flow model to estimate the effect of said modification.